

wherein the imaging is conducted with a focal point of the sensor camera being shifted from a surface of the work piece to obtain images corresponding to the through holes, and areas of the images of the through holes are compared with one another.

Claim 3. (AMENDED) A through hole examination method according to claim 1, wherein a line sensor camera is used as the sensor camera, and the imaging is conducted by shifting the camera relative to and in parallel with the work piece.

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Claim 4. (AMENDED) A through hole examination method according to claim 1, wherein the imaging focal point of the sensor camera is shifted from the surface of the work piece to conduct imaging such that an area of an image of the passing light is expanded.

Claim 5. (AMENDED) A through hole examination apparatus comprising:
a light source;
a sensor camera having a plurality of imaging elements;
a table on which a work piece having through holes is mounted interposed between the light source and the sensor camera, wherein
the sensor camera is capable of imaging light passing through the through holes, and

a relative position between the sensor camera and the surface of the work piece is set such that an imaging focal point of the sensor camera is shifted from a surface of the work piece; and

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CDN's an image processing device receives imaging signals provided by the sensor camera and performs a process for comparing imaged areas.

Please add the following new claims.

Claim 7. (NEW) A through hole examination method according to claim 2, wherein a line sensor camera is used as the sensor camera, and the imaging is conducted by shifting the camera relative to and in parallel with the work piece.

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Claim 8. (NEW) A through hole examination method according to claim 2, wherein the imaging focal point of the sensor camera is shifted from the surface of the work piece to conduct imaging such that an area of an image of the passing light is expanded.

IN THE ABSTRACT

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There are provided a method and apparatus for examining through holes, in which determinations as to whether the examined through holes are good or bad can be accurately made at low costs. A light source and a sensor camera having a plurality of imaging elements are disposed with a table, on which a work piece having through holes is mounted, interposed between the light source and the sensor camera. Light passing through the through holes is imaged by the sensor camera, wherein the sensor